

PATENT COOPERATION TREATY

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INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

REC'D 30 AUG 2005

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Applicant's or agent's file reference C04038	FOR FURTHER ACTION		See Form PCT/IPEA/416
International application No. PCT/AU2004/000544	International filing date (day/month/year) 28 April 2004	Priority date (day/month/year) 29 April 2003	
International Patent Classification (IPC) or national classification and IPC Int. Cl. ⁷ F21V 21/16, 21/08, F21L 4/00			
Applicant EVEREADY BATTERY COMPANY, INC. et al			

1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 5 sheets, including this cover sheet.

3. This report is also accompanied by ANNEXES, comprising:

a. ☒ (sent to the applicant and to the International Bureau) a total of 3 sheets, as follows:

☒ 3 sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).

☐ sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.

b. ☐ (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) , containing a sequence listing and/or table related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).

4. This report contains indications relating to the following items:

☒ Box No. I Basis of the report

☐ Box No. II Priority.

☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

☐ Box No. IV Lack of unity of invention

☒ Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

☐ Box No. VI Certain documents cited

☐ Box No. VII Certain defects in the international application

☒ Box No. VIII Certain observations on the international application

Date of submission of the demand 5 July 2004	Date of completion of the report 18 August 2005
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INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/AU2004/000544

Box No. I **Basis of the report**

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ This report is based on translations from the original language into the following language which is the language of a translation furnished for the purposes of:

☐ international search (under Rules 12.3 and 23.1 (b))

☐ publication of the international application (under Rule 12.4)

☐ international preliminary examination (under Rules 55.2 and/or 55.3)

2. With regard to the elements of the international application, this report is based on (*replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report*):

☐ the international application as originally filed/furnished

☒ the description:

pages 1 – 9 as originally filed/furnished

pages* 10 received by this Authority on 31 January 2005 with the letter of 31 January 2005

pages* received by this Authority on with the letter of

☒ the claims:

pages as originally filed/furnished

pages* as amended (together with any statement) under Article 19

pages* 11, 12 received by this Authority on 27 April 2005 with the letter of 27 April 2005

pages* received by this Authority on with the letter of

☒ the drawings:

pages 1/9 – 9/9 as originally filed/furnished

pages* received by this Authority on with the letter of

pages* received by this Authority on with the letter of

☐ a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing.

3. ☐ The amendments have resulted in the cancellation of:

☐ the description, pages

☐ the claims, Nos.

☐ the drawings, sheets/figs

☐ the sequence listing (*specify*):

☐ any table(s) related to the sequence listing (*specify*):

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

☐ the description, pages

☐ the claims, Nos.

☐ the drawings, sheets/figs

☐ the sequence listing (*specify*):

☐ any table(s) related to the sequence listing (*specify*):

* If item 4 applies, some or all of those sheets may be marked "superseded."

Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**1. Statement**

Novelty (N)	Claims 1 – 13	YES
	Claims	NO
Inventive step (IS)	Claims 5 – 7, 9 – 13	YES
	Claims 1 – 4, 8	NO
Industrial applicability (IA)	Claims 1 – 13	YES
	Claims	NO

2. Citations and explanations (Rule 70.7)

The following document identified in the International Search Report has been considered for the purposes of this report:

D1: US Des 346 231 (LAI) 19 April 1994

Novelty (N)

D3 shows a bicycle lamp with a narrow strap which is attached to the lamp housing at one end with the other end of the strap passing through what appears to be an adjustable securing means. Figure 3 clearly shows a switch, and the presence of a battery housing is implicit in that no other power source is visible in the figures. D3 does not clearly disclose an over the centre securing mechanism which cooperates with a retaining recess to adjustably secure the narrow strap. The claims therefore satisfy the criteria for novelty.

It is noted that the strap disclosed in D3 is considered to fall within the scope of the definition of a lanyard given at page 10 of the description. In the absence of any defining feature to clearly distinguish between a narrow strap and a broad strap, the relative width of any strap must be considered in the context of what it is supporting. In the case of document D3, the figures clearly show a strap that is narrow in the context of the lamp that it is supporting, and furthermore, the aspect ratio of the strap of D3 (long length and relatively small width) indicates a relatively narrow strap. It is therefore concluded that document D3 does in fact disclose a narrow strap, and hence a lanyard.

Inventive Step (IS)

The only differences between the disclosure of D3 and the current claims are in relation to construction and nature of the adjustable securing means.

The purpose of the invention of D3 is to attach a lamp to bicycle handlebars, and in this respect, the strap and the hinged "flap" of the figures clearly cooperate to achieve this purpose in some way. To the person skilled in the art with knowledge of basic engineering concepts, this illustrated combination of a strap and a hinged element would immediately indicate a clamping mechanism. While the exact details of this clamping mechanism are not clear from the drawings, there can be no other function that this combination of elements could be performing in the invention of D3. Consequently, D3 does disclose *some* form of clamping mechanism.

(Continued on Supplemental Box)

Box No. VIII Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

1. Claims 5 – 7 are not fully supported by the description. While the individual features of these claims are described, an embodiment including both an over-the-centre securing mechanism *and* a twisted rope lanyard cooperating with a retaining recess are not disclosed in the description.

Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

Continuation of: Box V

As to the nature of this clamping mechanism, it can be argued in the first instance that the specific details are immaterial to the inventive concept, especially as the stated problem relates merely to attaining some way of adjustably securing the lanyard. This argument is further supported by the current description itself, where several distinct methods of adjustably securing the lanyard are described (compare figures 8 – 12 with figures 13 & 14, for example). This problem of adjustably securing a lanyard through the use of a clamping mechanism and strap is already solved by D3. On reading D3 therefore, the person skilled in the art would simply be lead towards a choice between a number of known alternative clamping mechanisms, including over the centre mechanisms. The choice of an over the centre mechanism in cooperation with a retaining recess therefore merely represents a technical equivalent to that disclosed in D3 and cannot be considered to involve an inventive step.

In the second instance, it can be argued that as a result of the lack of detail in D3, the person skilled in the art would be forced to add their own interpretation as to how the invention works based on the few details provided. One of the several possibilities that would be obvious to the skilled person involves the part of the hinged flap which represents the axis about which it rotates. There can be no argument that the strap passes between a flat fixed portion and the axis about which the hinge rotates (figure 2), and that the hinge is initially in an "open position" (figure 1) and then closed once the strap is positioned (figure 2). Such constructional features are reminiscent of, and integral to, the working of over the centre clamping mechanisms, which would be well known to the person skilled in the art. These over-centre clamps apply a compressional force to the strap which acts through the axis of rotation of the hinge, such that the action of the force biases the clamp closed. While the drawings do not show sufficient detail, the person skilled in the art, with a knowledge of over the centre mechanisms, would easily be lead to the possibility that the illustrated rectangular projections could have a component which contacts the strap when the flap is closed. There is clearly no disclosure in the figures of D3 to contradict this possibility. This *suggestion* of an over the centre clamping mechanism to the person skilled in the art precludes any possibility of the invention claimed in claim 1 involving an inventive step.

The features added by dependent claims 2 & 3 relate to further functional features that are inherent in any clamping mechanism. The features added by dependent claims 4 & 8 are disclosed or inherent in D3. Hence claims 2 – 4 & 8 cannot contribute to any inventiveness.

The features added by dependent claims 9 – 13 are not taught nor suggested by the disclosure of D3, and hence these claims are considered to meet the criteria for inventive step. Furthermore, the combination of a cleat with a twisted rope lanyard that is defined in claims 5 - 7 is not taught nor suggested by D3 and hence these claims also meet the criteria for inventive step.

[0079] The above described adjustable securing mechanisms in the form of mechanism 186, or the cleat 300, will allow a user to vary the length of the lanyard 180 between securing mechanism and the proximal end of the lanyard.

[0080] While the cleat of figure 13 and 14 includes groove formation 310 so as to receive similarly shape twist formations on the lanyard 180, whereby relatively little deformation of the lanyard 180 need occur. If desired a cleat arrangement can be used which causes some deformation of the lanyard 180 when the lanyard is compressed into the cleat. Such a cleat can engage the lanyard, by means of barbs on the cleat moving into the lanyard so as to compress and hold the lanyard and preventing the lanyard from being withdrawn from the cleat. Such a cleat will also allow the lanyard to be pulled tight so to place the portion of the lanyard between the cleat and the proximal end of the lanyard in tension. This can be handy to provide additional friction, for such times when the flashlight is to be attached to and around a pole. The additional tension and thus friction can help prevent the flashlight sliding down such a pole.

[0081] In this specification, the term "lanyard" is intended to include a cord, rope or narrow strap".

[0082] It will be understood that the invention disclosed and defined herein extends to all alternative combinations of two or more of the individual features mentioned or evident from the text. All of these different combinations constitute various alternative aspects of the invention.

[0083] The foregoing describes embodiments of the present invention and modifications, obvious to those skilled in the art can be made thereto, without departing from the scope of the present invention.

Claims

1. A lighting device having a housing which includes a lamp means,
a battery housing to receive at least one battery,
and a switch means to open and close a circuit between said lamp means and terminals of said at least one battery when located in said housing,
said lighting device including a lanyard attached to said housing
characterized by said lanyard having a proximal end attached to said housing,
and a distal end,
the lighting device including an adjustable securing means formed in or attached to said housing to adjustably secure said distal end or a portion of said lanyard to said housing,
wherein the securing means includes a retaining recess,
wherein the distal end or a portion of the lanyard is retained in the retaining recess by an over-the-centre securing mechanism.
2. A lighting device as claimed in claim 1, wherein the lanyard is transversely resilient.
3. A lighting device as claimed in claim 2, wherein the over-the-centre securing mechanism compresses the lanyard transversely in the clamped state.
4. A lighting device as claimed in any one of claims 1 to 3, wherein said adjustable securing means provides a means to secure said distal end or a portion of said lanyard so as to vary the length of said lanyard between said adjustable securing means and said proximal end.
5. A lighting device as claimed in any one of claims 1 to 4, wherein the lanyard is of a twisted rope construction and wherein the retaining recess contains protrusions cooperating with the twist of the lanyard to retain the lanyard in the retaining recess.
6. A lighting device as claimed in any one of claims 1 to 4, wherein the lanyard is of a twisted rope construction and wherein at least one side wall of the retaining recess includes

angled grooves of a pitch matching or compatible with the pitch of the twist of the lanyard to retain the lanyard against longitudinal forces in at least one direction.

7. A lighting device as claimed in claim 6, wherein the side walls of the retaining recess taper inwardly.
8. A lighting device as claimed in any one of the preceding claims, wherein said proximal end of the lanyard is attached to the housing through an aperture formed in or on the housing.
9. A lighting device as claimed in claim 8, wherein the aperture includes an arm and wherein the lanyard is formed of a loop of flexible material, the proximal end of the lanyard being attached to the arm by looping the lanyard through itself around the arm.
10. A lighting device as claimed in claim 8, wherein the proximal end of the lanyard includes a capture device which is retained by the aperture.
11. A lighting device as claimed in claim 9, wherein the arm forms part of an anchoring aperture through which a first portion of the loop can be passed, the first portion of the loop being looped over the remainder of the lanyard and pulled back through the anchoring aperture to capture the lanyard in the anchoring aperture.
12. A lighting device as claimed in claim 11, wherein the distal end of the lanyard includes an attachment member to form a second attachment to the lighting device housing.
13. A lighting device as claimed in claim 11 or claim 12, wherein the lighting device housing includes a second anchoring aperture to cooperate with the attachment member.

Dated this 27th day of April 2005

Eveready Battery Company, Inc.

By their patent attorneys

Halford & Co.